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Center for Education Statistics

Contact: Joannell T. Porter
(202) 357-6595
Marie van Melis-Wright
(202) 357-6588

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New Teachers in the Job Market - 1985 Update

Numerous concerns about the supply of qualified teachers have been voiced by public and private administrators during recent years. Whether the supply of qualified teachers is adequate can be determined only by examining both the supply of teachers and the demand for teachers. This report does not address the issue of demand, nor does it address all sources of teachers. Rather, it provides information about one source of teachers, namely individuals who received a bachelor's degree in the 1983-1984 academic year and became newly qualified to teach in the ensuing year. It does not discuss the "reserve pool" of teachers.

Highlights

Although the total number of bachelor's degree recipients in 1983-1984 increased 6 percent since 1976-1977, the proportion of graduates who became eligible or certified to teach showed a sharp decline during this time period. The number who became newly qualified to teach (NQT's)¹ decreased from 171,100 in 1978 to 98,700 in 1985 - a 42 percent decrease.

Overall, the job market for NQT's seems to have improved. In 1985, 93 percent of the NQT's were employed in either teaching or non-teaching positions, whereas in 1978, 84 percent were employed. However, the proportion of 1985 NQT's who applied for and subsequently obtained a teaching position (78 percent) remained about the same as the proportions observed in 1981 (75 percent), and 1978 (77 percent).

¹NQT's are defined on page 2.

The average annual salary of 1985 NQT's who were employed full-time 1 year after graduation was \$14,300, which was nearly \$4,500 lower than the salary of other, non-NQT bachelor's degree recipients.

An estimated 91 percent of the 1985 NQT's were certified to teach in elementary or secondary schools. Of these, 66 percent were teaching at the time of the survey.

These are some of the findings drawn from the 1985 Recent College Graduates Survey. The survey was administered to a nationally representative sample of approximately 16,000 persons receiving bachelor's degrees in 1983-84 from 404 colleges and universities. A questionnaire was mailed to the participants requesting information about their college experience, employment status, and other related occupational and educational activities. More details about the survey are presented in the Technical Notes, Part A. The results of the data analyses are summarized below. Any group differences specifically cited in the text are statistically significant at the .05 level. T-tests were used to test the statistical significance of observed differences. Information regarding the reliability of the data is presented in the Technical Notes, Part B.

Number of Graduates Newly Qualified to Teach

Graduates for 1985 designated as "newly qualified to teach" (NQT's) are those persons who met both of the following criteria:

1. They first became eligible or certified for a teaching license during the period July 1, 1983, to June 30, 1984; or they were not eligible or certified but were teaching at the time of the survey.
2. They never held a full-time, regular teaching position prior to completing the requirements for the degree which brought them into the survey.

Based on responses provided by the survey participants, an estimated 98,700 individuals who received a bachelor's degree became newly qualified teachers (table 1) between July 1, 1983 and June 30, 1984. This constitutes approximately 10 percent of all graduates who received a bachelor's degree in the United States during this time period.

Since 1978, the number of NQT's decreased 42 percent, even though the total number of estimated bachelor's degree recipients actually increased from 897,800 in 1978 to 955,300² in 1985 (6 percent). This large

²Based on 1982-1983 Higher Education General Information Survey of earned degrees, minus deceased and foreign students.

decrease in the number of NQT's since 1978 is interesting in light of the fact that the population of 5- to 17-year-olds decreased by only 8 percent from 1978 to 1985.³ NQT's as a percent of all bachelor's degree recipients in a given year also decreased by 5 percent since 1981, and by 9 percent since 1978.

Table 1.--Number and percent of newly qualified teachers (NQT's) for all bachelor's degree recipients: 1978, 1981, and 1985

Bachelor's degree recipients	1978		1981		Percent change since 1978	1985		Percent change since 1978
	Number	Percent	Number	Percent		Number	Percent	
Total	897,800	100	905,700	100	1	955,300	100	6
Newly qualified teachers	171,100	19	132,300	15	-23	98,700	10	-42
School-aged students	4,903,900		4,635,400		- 6	4,497,700		- 8

SOURCE: "New Teachers in the Job Market - 1981 Update," Recent College Graduates Survey, National Center for Education Statistics, U.S. Department of Education, 1981.

As one might expect, the majority (71 percent) of all 1985 NQT's majored in education, and table 2 indicates that 73 percent of all education majors were NQT's. The remaining 29 percent of NQT's showed great diversity in their choice of a major field of study, and the proportion of NQT's in majors other than education ranged from a low of .5 percent in business and management to 9 percent in the humanities.

³U.S. Bureau of the Census, Current Population Reports, 1978-1985.

Table 2.--Bachelor's degree recipients and newly qualified teachers
(NQT's), by major field of study: 1983-84

Major field of study	Bachelor's degree recipients	NQT's	Percent NQT's
Total	955,300 *	98,700	10
Professional fields	495,900	74,700	15
Business and management	224,100	1,200	**
Education	96,600	70,400	73
Engineering	87,700	**	**
Health professions	63,700	2,300	4
Public affairs/social services	23,900	**	**
Arts and science fields	347,500	18,800	5
Biological science	47,000	2,500	5
Mathematics, computer, and physical sciences	78,200	1,800	2
Social sciences	93,800	5,700	6
Humanities	83,100	7,300	9
Psychology	45,300	1,600	4
Other fields	111,900	5,200	5

* Numbers may not add to totals due to rounding.

** Less than 1 percent.

SOURCE: Recent College Graduates Survey, Center for Education Statistics,
U.S. Department of Education, 1985.

Labor Force Status of Newly Qualified Teachers

NQT's fared well in the 1985 labor market. Ninety-three percent were employed (full- or part-time) in either teaching or non-teaching positions, 2 percent were unemployed, and 5 percent were not in the labor force, by choice,⁴ at the time of the survey. The proportion of NQT's and other bachelor's degree recipients who were unemployed or not in the labor force declined significantly since 1978 (table 3).

Compared to other bachelor's degree recipients, NQT's consistently had higher employment rates between 1978 and 1985. However, whereas the proportion of other bachelor's degree recipients working full-time increased from 1978 to 1981 and remained constant thereafter, the full-time employment rate for NQT's remained constant from 1978 to 1981, then decreased between 1981 and 1985. Thus, although the employment rate of NQT's was significantly higher in 1985 than that of other bachelor's degree recipients, a larger proportion of NQT's were working part-time.

⁴"Not in the labor force" are those who were not working and not seeking employment.

Table 3.--Labor force status of newly qualified teachers (NQT's) and other bachelor's degree recipients 1 year after graduation: 1978, 1981, and 1985

Year	Percent not in labor force	Percent employed	Percent unemployed	Percent employed	
				Full-time	Part-time
Total NQT's					
1978	9	87	4	83	17
1981	6	91	3	83	17
1985	5	93	2	80	20
All others					
1978	16	80	4	84	16
1981	15	81	4	87	13
1985	12	84	4	87	13

SOURCE: "New Teachers in the Job Market - 1981 Update," Recent College Graduates Survey, National Center for Education Statistics, U.S. Department of Education, 1981. Recent College Graduates Survey, Center for Education Statistics, U.S. Department of Education, 1985.

Average Annual Salary of Newly Qualified Teachers and All Other Bachelor's Degree Recipients

In 1985, NQT's who were employed full-time in either teaching or non-teaching positions reported an overall average annual salary of \$14,300, which was significantly lower than the average salary of \$18,800 reported by all other graduates during the same time period. These lower salaries of NQT's were observed in professional fields, arts and sciences, and other fields (table 4). The earnings of NQT's in teaching positions were the same as the earnings of NQT's who were not teaching (table 5).

Table 4.--Average annual salary of newly qualified teachers (NQT's) and all other bachelor's degree recipients employed full-time: 1985

Major field of study	NQT's	Other bachelor's degree recipients
Total	\$14,300	\$18,800
Professional fields	14,400	20,200
Arts and sciences fields	14,100	17,500
Other fields	13,800	16,200

SOURCE: Recent College Graduates Survey, Center for Education Statistics, U.S. Department of Education, 1985.

Table 5.--Average annual salary of newly qualified teachers (NQT's)
and all other bachelor's degree recipients working full-time
in teaching and non-teaching positions: 1985

Major field of study	Teaching positions	Non- teaching positions
Total	\$14,000	\$15,000
Professional fields	14,100	15,100
Arts and sciences	13,900	14,600
Other fields	13,100	15,700

SOURCE: Recent College Graduates Survey, Center for Education Statistics,
U.S. Department of Education, 1985.

Teaching Status of Newly Qualified Teachers

While the number of NQT's declined 42 percent since 1978, the proportion of NQT's who applied for a teaching position has risen significantly. However, the proportion of NQT's who applied for and subsequently obtained a teaching position remained nearly constant since 1978 (table 6). Of the NQT's who did not apply for a teaching position, 42 percent had wanted to teach at the time of the survey. Reasons for not wanting to teach varied; 28 percent received a better job offer, 22 percent reported they were never interested in teaching, 18 percent did not like the pay and teaching conditions, and 32 percent indicated other reasons. Of those that wanted to teach but did not apply, 42 percent felt they needed another degree, 32 percent indicated they were not ready for a job, and 21 percent stated that teaching jobs were hard to obtain.

Table 6.--Newly qualified teachers (NQT's), by teaching status:
1978, 1981, and 1985

NQT's	1978		1981		1985	
	Number	Percent	Number	Percent	Number	Percent
Total	171,100	100	132,200	100	98,700	100
Did not apply to teach	38,600	23	19,800	15	13,700	14
Applied to teach	132,500	77	112,400	85	85,000	86
Applied to teach	132,500	100	112,400	100	85,000	100
Teaching	102,600	77	84,600	75	66,400	78
Not teaching	29,900	23	27,800	25	18,600	22

SOURCE: Recent College Graduates Survey, Center for Education Statistics,
U.S. Department of Education, 1985.

Eligibility and Certification of Newly Qualified Teachers

Of the estimated 98,700 NQT's in 1985, 91 percent were actually certified to teach in an elementary or secondary school. The remaining 9 percent were not certified to teach but were eligible because they were teaching at the time of the survey. Among those eligible or certified to teach, 66 percent were teaching at the time of the survey. The proportion of NQT's who were actually teaching varied somewhat by the field in which eligibility or certification was obtained, ranging from a high of 80 percent for those eligible or certified to teach English, to a low of 38 percent for those qualified to teach vocational education. Similarly, of those eligible or certified NQT's who were teaching, the proportion teaching in the field in which they were qualified to teach also varied by the subjects in which they were eligible or certified to teach. For example, 61 percent of those certified in General Education were actually teaching this subject, whereas only 12 percent of those teaching art were qualified to teach art. Conversely, as table 8 demonstrates, of those NQT's teaching in particular subject areas, the proportion who were qualified to teach in these areas varied by the subject taught. For example, of those NQT's teaching mathematics, 49 percent were certified to teach mathematics. Similarly, for those teaching vocational education, 71 percent were qualified to teach in this subject area.

The relationship between field of qualification and the field of teaching is, of course, based on information gathered from teachers who obtained jobs within a year of being out of school. It does, however, suggest a great deal of mis-matching between the resources available (teachers who are newly eligible, certified, or both) for classroom teaching and the actual utilization of these resources in the classroom.

Table 7.--Teaching status of newly qualified teachers (NQT's), by
certification: 1985

Field of certification	Total	Teaching and certified in any field		Teaching and certified in field	
		Number	Percent	Number	Percent
Total NQT's	98,700	66,400	67	NA	NA
NQT's certified in any of the subjects below:	89,700	59,400	66	NA	NA
General elementary	44,200	33,300	75	27,100	61
Pre-elementary	5,900	4,400	75	3,400	58
Biology	5,400	3,500	65	1,400	26
Physical sciences	5,300	4,200	79	2,200	42
Mathematics	9,100	7,000	77	3,700	41
English	9,500	7,600	80	3,000	32
Social sciences	13,100	9,100	70	4,100	31
Music	6,300	3,900	62	2,100	33
Art	4,300	2,400	56	500	12
Business	2,700	1,300	48	1,000	37
Special education	12,900	9,500	74	6,400	50
Vocational education	3,900	1,500	38	1,100	28
Not certified	9,000	NA	NA	NA	NA

NA = Not applicable.

SOURCE: Recent College Graduates Survey, Center for Education
Statistics, U.S. Department of Education, 1985.

Table 8:--Newly qualified teachers (NQT's) teaching in specific areas, by eligibility or certification to teach in these areas: 1985

Subject areas taught	Total teaching in subject area	Percent of NQT's certified to teach in subject area
Pre-elementary	400	0
General elementary	5,100	73
Biology	2,900	47
Physical sciences	4,200	51
Mathematics	7,600	49
English	7,200	41
Social sciences	7,000	58
Music	3,300	64
Art	2,400	21
Business	2,400	42
Special education	7,800	82
Vocational education	1,600	71

SOURCE: Recent College Graduates Survey, Center for Education Statistics, U.S. Department of Education, 1985.

For More Information

For more information about this survey, contact Joannell Porter or Marie van Melis-Wright, Center for Education Statistics, Postsecondary Education Statistics Division, Special Surveys and Analysis Branch, Room 408, 555 New Jersey Avenue, NW., Washington, D.C. 20208, telephone (202) 357-6595, or (202) 357-6588. Inquiries concerning data tapes on the 1985 Recent College Graduates Survey may be directed to Information Systems and Media Services, same address, Room 306, telephone (202) 357-6522.

APPENDIX

TECHNICAL NOTES

A. Description of the Survey

The 1985 Recent College Graduates Survey was conducted in June through September 1985, for the Center for Education Statistics by Lawrence Johnson and Associates, Washington D.C.⁵ Approximately 18,000 bachelor's and master's degree recipients were selected in the second stage of a two-stage sample selection procedure. The first-stage sample was selected from all Education Department recognized-accredited institutions in the 50 States and the District of Columbia that award bachelor's or master's degrees, or both. Institutions were stratified on two dimensions--emphasis on education (i.e., the proportion of all bachelor's degrees awarded in education was greater than 50 percent, or the number of bachelor's degrees in education was 100 or more) and institutional control (public and private). Within each stratum, institutions were selected with probabilities proportional to size where size was defined as the total number of bachelor's and master's degrees awarded. Traditionally black institutions were oversampled by tripling their probability of selection. The purpose was to have sufficient numbers of black recent college graduates in the sample to provide reliable estimates. Using this procedure, 404 institutions were selected. Lists of individuals who received bachelor's or master's degrees between July 1, 1985, and June 30, 1986, were obtained from 97 percent of the sampled institutions.

Graduates were stratified on the basis of level of degree (bachelor's or master's degree), field of major (education, math, computer science, physical science, letters, and all other fields), and Hispanic surname. Differential sampling rates were applied to graduates within each stratum. A total of 16,000 bachelor's degree recipients and 2,000 master's degree recipients were sampled. The survey and follow-up procedures yielded an effective response rate of 78 percent. A ratio estimation procedure was used to inflate the sample results to estimates applicable to the total number of bachelor's and master's degree recipients in 1983-84. The 1983-84 Higher Education General Information Survey (HEGIS) of earned degrees provided the applicable estimates for the total number of graduates in the various strata.

B. Reliability of the Estimates

The estimates in this report are subject to both sampling and non-sampling error. Sampling error arises because a small number of individuals are selected from a population and are used to make inferences to, and draw conclusions about, the population. We know that estimates derived from one sample would differ from estimates derived from another sample drawn from the same population in the same way. These differences

⁵Subcontractor of the project was Westat, Inc., Rockville, MD.

are the result of sampling variability. One measure of sampling error is the coefficient of variation (CV). The coefficient of variation is the standard error of an estimate divided by the estimate. The CV represents the variability of an estimate expressed as a percent of the estimate. This has the effect of standardizing the variation in terms of units and orders of magnitude. Table A presents the coefficient of variation for each of the estimates in tables 1 through 8. The CV's can be used to determine the standard error of an estimate. For example, 93 percent of the 1985 NQT's were employed (table 3). The CV of this estimate is measured to be .032. This means that about 3.2 percent of the estimate is a measure of the variation of this estimate among samples. Put another way, 2.98 is the standard error of the estimated proportion of employed NQT's. A standard error may be used to establish a confidence interval around an estimate. To establish the 95 percent confidence interval around the estimate of the proportion of employed NQT's, multiply the standard error (.0298) by 1.96 and add and subtract this value (.058) from the estimate (.93). Multiplying the standard error of the estimate by 1.96 provides the limits of a 95 percent confidence interval. The resulting confidence interval (.87 - .99) would contain the "true" proportion of employed in 95 percent of the samples that might be drawn from the population of recent bachelor's degree recipients. Coefficients of variation for all other estimates presented in this report are available upon request.

Table A.--Coefficients of variation

Characteristics	Total bachelor's degree recipients	NQT's
<u>Major field of study</u>		
Total	.000	.031
Professional fields	.004	.029
Business and management	.000	.327
Education	.000	.024
Engineering	.000	*
Health professions	.000	.286
Public affairs and social services	.074	*
Arts and sciences	.016	.065
Biological sciences	.065	.241
Mathematics, computer science, and physical sciences	.034	.211
Social sciences	.000	.151
Humanities	.037	.082
Psychology	.060	.236
Other fields	.046	.205
<u>Employment status</u>		
In labor force	.004	.032
Not in labor force	.026	.153
Employed	.005	.032
Full-time employment	.006	.028
Part-time employment	.029	.095
Unemployed	.060	.247
Teaching	NA	.030
Not teaching	NA	.080
<u>Salary, by major field</u>		
Total	.006	.017
Professional fields	.006	.015
Arts and sciences	.010	.045
Other fields	.019	.085

* Number in sample too small to yield a reliable estimate.

NA = Not applicable.

Table B.--Coefficients of variation--for NQT's

Salary, by teaching status

Teaching	
Professional fields	.014
Arts and sciences	.030
Other fields	.079
Not teaching	
Professional fields	.063
Arts and sciences	.104
Other fields	.245

Certified in subject area

Total	.031
General elementary	.032
Pre-elementary	.148
Biology	.158
Physical sciences	.195
Mathematics	.110
English	.111
Social sciences	.106
Music	.136
Art	.184
Business and management	.188
Special education	.112
Vocational education	.151
Other fields	.094

Teaching in subject area

Total teaching	.059
General elementary	.144
Pre-elementary	.394
Biology	.158
Physical sciences	.186
Mathematics	.109
English	.100
Social sciences	.119
Music	.212
Art	.165
Business and management	.205
Special education	.104
Vocational education	.204
Other fields	.093
Not teaching	.036

Table B.--Coefficients of variations--for NQT's (continued)

Certified and teaching in field

Total	.031
General elementary	.173
Pre-elementary	.000
Biology	.270
Physical sciences	.246
Mathematics	.132
English	.132
Social sciences	.155
Music	.211
Art	.411
Business and management	.324
Special education	.125
Vocational education	.237
Other fields	.130
